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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,555	11/30/2004	Peter D. Dornier	4803/PCT	7085
21553	7590	12/19/2005	EXAMINER	
FASSE PATENT ATTORNEYS, P.A. P.O. BOX 726 HAMPDEN, ME 04444-0726			MUROMOTO JR, ROBERT H	
			ART UNIT	PAPER NUMBER
			3765	
DATE MAILED: 12/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/516,555

Applicant(s)

DORNIER ET AL.

Examiner

Robert H. Muromoto, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 7-9, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/30/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

The abstract of the disclosure is objected to because the recitation, "The invention relates to..." is redundant and not proper language for US patent practice. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

Claim 7-9, 11 and 12 are objected to because of the following informalities: claim 7 (to which 8 and 9 depend, and in turn to which claim 11 and 12 depend, respectively), recites an Air jet loom (apparatus) for carrying out the method of claim 1. This type of pre-amble brings with it some ambiguity as to whether applicant is claiming an apparatus, a process or both. For the instant examination, the examiner has treated claim 7 as a de-facto independent apparatus claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dornier et al., US patent 5,697,405.

Applicant has already admitted that it is known, "on air jet looms, the weft thread that is to be inserted into the loom shed is made available with a predetermined length to the pneumatically acting weft thread insertion means from a so-called thread store or pre-spooling device or accumulator (specification page 2, lines 1-6)." (claim 1)

Additionally, claim 1 is in Jepson claim format, drafting a claim in Jepson claim format is an admission that the subject matter of the preamble is the prior art of another.

Applicant has also admitted that it is known for the weft thread to be "held securely on the thread store through suitable means for the time duration of at least one weaving cycle (specification page 2, lines 11-13)." (claim 2)

'405 discloses an insertion nozzle 1 for inserting a weft thread 2 into a loom shed, comprising a thread supply tube 3 and a mixing tube 8 arranged in axial alignment with the thread supply tube 3. An air supply channel 5 concentrically surrounds at least part of the thread supply tube. An air stream is provided under pressure to the air supply channel 5 through an air connector stub 6 and flows through the air supply channel 5 as shown by arrows 7'. From there, the air flows into and through an airflow channel 5A that is formed between the outlet end section 3A of the thread supply tube 3 and the inlet section 8A of the mixing tube 8. The annular airflow channel 5A opens into a circular section airflow channel 8B enclosed within the mixing tube 8.

Airflow openings include cut out notches 11 at the outlet edge of the outlet end section 3A of the thread supply tube. The notches 11 are wedge shaped and have

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openings at angles less than 90 degrees. The outlet end section 3A may have two notches or four notches as shown in Figs. 4 and 5.

There may also be rows of through holes 13-15 at the outlet end section 3A as an alternative or in combination with the notches 11 to provide increasing airflow toward the outlet end.

The air holes clearly shown in figure 7, emit air that would be at either an acute angle to the longitudinal center axis or at an obtuse angle to the longitudinal center axis depending on the point of reference used to determine the angle. Since no point of reference is given the air stream from the air holes clearly anticipates the limitations of claims 3 and 5.

Additionally, since the notches and air holes are located at the outlet end section 3A, and the outlet section 3A is enclosed within the inlet section of the mixing tube 8 the air flow would impinge on an end section of the length of the weft in the mixing tube 8 as recited in claim 1.

Pursuant to claim 4, the notches 11 shown in cross-section in figure 3 and the air holes in figure 7, would provide airflow to the weft yarn with at least some portion of it having a vector perpendicular to the longitudinal center axis.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dornier '405 in view of Bucher US patent 4,915,144.

Although '405 discloses the limitations of the claims above, '405 does not teach a step in which the end region of the weft yarn impinged on by the air stream being cut-off after the weaving-in of the weft thread into the woven fabric; nor does it teach an arrangement that deflects the front end of the weft thread out of the plane of the longitudinal center axis of the mixing tube by means of the air stream.

However, '144 does teach multiple embodiments shown in Figures 3-6 of an arrangement and method that removes a weft yarn length that has been retained in the picking channel of a picking nozzle. This length is removed because it may have been damaged by the tractive forces of the holding air stream resulting in fabric defects. The gathering, severing, and disposition of the extra length of weft yarn may take place either on the side of the loom where the picking nozzle is located or on the opposite side of the loom. Figures 3-6 all show different embodiments of arrangements to carry out the gathering, severing, and disposition of the extra length of weft yarn. They all use some airflow means to displace the weft yarn as recited.

With respect to claim 7, this claim is drafted in Jepson claim format. Drafting a claim in Jepson claim format is an admission that the subject matter of the preamble is the prior art of another.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Bucher '144 to modify the insertion nozzle and method of Dornier '405 to use an arrangement to deflect the length of weft yarn held by

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the air stream in the nozzle out of the plane of the longitudinal center axis of the mixing tube by means of an air stream so that the length can be cut-off after the weaving-in of the weft thread into the fabric so that the length is not woven into the fabric body. This is done to prevent the occurrence of fabric defects due to the potential damage of the yarn length as it is being held by the forces of the air stream.

Claims 8, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dornier '405 in view of Bucher '144 as applied to claims above, and further in view of Manders US patent 4,404,996.

Although the combined teachings of '144 and 405 teach essentially all of the limitations of the claimed invention, they do not teach the yarn deflecting arrangement with inlet and outlet channels on diametrically opposite sides of the mixing tube or that the inlet and outlet channels are oriented perpendicular to the longitudinal center axis of the mixing tube.

However, Manders does teach a device used in a shuttleless weaving machine "for stretching and keeping taut during the beating up movement of the reed an inserted weft thread length (col. 2, lines 29-30."

Shown in figure 2, there is inlet channel 10 and outlet channel 11, they are clearly 'diametrically opposite' to each other and 'perpendicular to the longitudinal center axis' of the cylinder leading the yarn to it referred to as guiding member 8. The inlet and outlet channels also are clearly shown penetrating the wall of the guiding member 8. Guiding member 8 corresponds to the mixing tube channel recited in claims 8, 9, 11, and 12.

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Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the previously cited combined teachings to use the inlet and outlet channel arrangement taught by Manders to properly "stretch and keep taut" an inserted weft thread length during the beating up movement of the reed during a weaving cycle.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Muromoto, Jr. whose telephone number is 571-272-4991. The examiner can normally be reached on 8-530, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bobby Muromoto  
December 14, 2005  
Patent examiner

